

EXHIBIT 3

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

ORACLE AMERICA, INC.,)
Plaintiff,)
vs.) No. CV 10-03561 WHA
GOOGLE, INC.,)
Defendant.)
-----)

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Videotaped Deposition of BOB LEE,
taken at 110 Fifth Street, Suite 400,
San Francisco, California, commencing
at 9:35 a.m., Wednesday, August 3, 2011,
before Leslie Rockwood, RPR, CSR No. 3462.

PAGES 1 - 82

Page 1

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1 in them, and the libraries are implementations of those
2 APIs.

3 Q. When you worked at Google on the Android team
4 and as the head of core libraries, did you ever refer to
5 those implementations of the Java and javax APIs as 09:50:17
6 interoperability libraries?

7 MR. PURCELL: Object to the form.

8 THE WITNESS: I don't recall. It's quite
9 possible.

10 Q. BY MR. PETERS: Did anyone else at Google 09:50:36
11 refer to those as implementations of the Java and javax
12 APIs as the interoperability libraries?

13 MR. PURCELL: Object to the form.

14 THE WITNESS: I don't recall the exact terms.

15 Q. BY MR. PETERS: But in your 2008 09:50:49
16 self-evaluation, you refer to them as the Java-ish
17 libraries; correct?

18 MR. PURCELL: Object to the form.

19 THE WITNESS: Correct.

20 Q. BY MR. PETERS: When you wrote that you build 09:51:02
21 heavily on the Harmony class library, what were you
22 referring to?

23 A. So Harmony is an Apache Project. They're
24 creating a free and -- their goal was to create a free
25 Open Source implementation of the Java libraries under 09:51:24

Page 12

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1 the Apache license. The Apache license enables you to
2 use that source code pretty much however you wish. It's
3 very permissive compared to a license like the GPL, which
4 has considerably more restrictions. For example, you
5 have to Open Source any changes that you make. 09:51:40

6 So the Harmony libraries were an
7 independently created and Apache-licensed implementation
8 of the Java APIs, the Java SE APIs.

9 Q. You also wrote that you'd much rather be
10 designing APIs than reimplementing them. 09:52:09

11 Do you see that? What -- what APIs have you
12 designed when at Google?

13 A. Oh, lots of them. For example, I implemented
14 Google -- created Google Guice, which is a dependency
15 injection framework, and that actually inspired and 09:52:29
16 turned into JSR 330, which is dependency injection for
17 Java, which is -- I led that JSR which contributed those
18 APIs to the Java platform. And it was actually the
19 fastest executing JSR in the history of the JCP.

20 Beyond that, I also contributed to the Google 09:52:57
21 Collections now called Guava, which is a set of
22 collections implemented in the Java programming language,
23 can be run on Java -- like -- and for that, you know, I
24 implemented several of those, like a class called
25 MapMaker and various things like that. 09:53:23

Page 13

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1 There are several other ones, but I don't
2 know how much detail you want me to go into.

3 Q. Would you say that designing APIs is a
4 creative activity?

5 MR. PURCELL: Object to the form. 09:53:36

6 THE WITNESS: Yes, absolutely.

7 Q. BY MR. PETERS: When you are referring to
8 reimplementing them, are you referring to the work that
9 you did with Noser to implement core libraries according
10 to Java APIs? 09:53:57

11 A. I am.

12 Q. If I can ask you to turn to the second page
13 of your self-evaluation.

14 A. Yes.

15 Q. In the fourth paragraph there, you have a 09:54:10
16 description that begins: "Most recently I set my sights
17 on our class preloading code."

18 Do you see that?

19 A. Yes.

20 Q. All right. With your work on the class 09:54:29
21 preloading code, was it the case before your work that
22 the list of classes that would be preloaded by Android
23 would be manually managed?

24 A. Yes, that was the case.

25 Q. And you wrote that you added hooks to Dalvik 09:54:53

Page 14

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1 so we can record class load and initialization times.

2 Can you describe generally what that work
3 involved?

4 A. Yes. So I mean, basically as you would
5 execute apps, it would performance profile class loading, 09:55:12
6 and it would like time both the loading of a class, which
7 just means really like loading an executable code. And
8 it would also independently measure the initialization
9 time of the class. So when you initialize a class, it
10 runs some kind of code. 09:55:34

11 And then it would -- so it would record that
12 information, and then I wrote another tool that would --
13 I mean, this was quite a bit of information. It would
14 mine all of this information that was gathered from
15 running popular apps -- and there's dozens of apps -- and 09:55:52
16 it would mine that information and prioritize and figure
17 out which were the most important classes to preload and
18 have like hot and ready to go into memory. So classes
19 that were already loaded whenever an app started.

20 Q. So the ultimate output of your tool would be 09:56:22
21 a list of classes and -- that should be preloaded and the
22 order in which they should be preloaded?

23 A. Correct.

24 MR. PURCELL: Object to the form.

25 Q. BY MR. PETERS: And your tool calculated the 09:56:41

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1 does or --

2 Q. Yes.

3 A. -- the implementation of it?

4 I don't have a deep understanding. I know

5 it's a -- so there's different types of just-in-time 11:29:37

6 compilers. So, for example, some -- like, Sun's VM,

7 like, compile individual methods. Dalvik is different in

8 that it uses what we call a trace-based JIT, which means

9 it doesn't care about the structure. It optimizes things

10 at a lower level, like the actual extremes of code. And 11:30:02

11 this is more comparable to all the stuff that Bill had

12 done previously and also comparable to stuff that like --

13 I forget what you call it -- SpiderMonkey or something,

14 on Mozilla -- Mozilla's jump strips, just-in-time

15 compiler. 11:30:20

16 Q. So -- so on a trace-based JIT, it could

17 compile part of a method instead of doing things on an

18 entire method base?

19 A. Yeah. A code that crosses multiple methods.

20 It doesn't really care about methods. It cares about 11:30:33

21 what code is being actually executed. It's, like, a

22 level down.

23 Q. As you did your work to re-implement the Java

24 APIs for Android --

25 A. Uh-huh. 11:30:52

Page 63

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1 Q. -- did you do anything to investigate whether
2 your work would infringe any of Sun's intellectual
3 property?

4 MR. PURCELL: Object to the form.

5 THE WITNESS: I didn't know that there was 11:31:04
6 any. So I wouldn't have done that work. I mean, I
7 didn't read the source code, for example.

8 Q. BY MR. PETERS: How did -- how did -- how did
9 you know that the Android code correctly implemented the
10 Java APIs? 11:31:34

11 A. There were a number of ways. We read the
12 specification, and like it describes, the span of the
13 implementations. And wrote tests for that specification.
14 And we took Open Source projects and ran their test
15 suites on top of the Android. And that caught a lot of 11:31:53
16 issues.

17 And then also, people would file bugs when
18 they tried to run their Java code, like previously
19 existing Java code, on Android. And we would address
20 those issues. 11:32:10

21 Q. BY MR. PETERS: So how did the Open Source
22 tests manage to test for correct behavior? Were they
23 written to the spec as well?

24 A. Well --

25 MR. PURCELL: Object to the form. 11:32:30

Page 64

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1 Go ahead.

2 THE WITNESS: So the Open Source tests, I
3 mean, they use the Java programming language and the Java
4 APIs. And they exercise in various ways. I mean,
5 especially, like, when you have big Open Source projects. 11:32:40
6 And if those tests did not pass on Android, that would
7 indicate that there was something that we didn't support.

8 Q. BY MR. PETERS: For the -- it's the -- it's
9 the API specification that defines the function and
10 behaviors that the API is -- implementation source 11:33:01
11 performs; is that correct?

12 MR. PURCELL: Object to the form.

13 THE WITNESS: The API specification defines
14 the function, yes.

15 Q. BY MR. PETERS: I guess what I'm really 11:33:14
16 getting at is, you know, you -- you know, Google was
17 developing an implementation of a Java API.

18 A. Uh-huh.

19 Q. And in order to know whether it behaves
20 correctly, it would have to know what the behavior is 11:33:32
21 supposed to be; isn't that right?

22 A. Yes.

23 Q. And the description of the behavior is in the
24 API specification.

25 A. Right. The Java docs, yes. Uh-huh. 11:33:42

Page 65

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1 Q. Did you consult the Java docs when doing your
2 work on the API implementations for Android?

3 A. Yes.

4 Q. Okay. And where did you obtain those Java
5 docs?

11:33:59

6 A. They're posted for free on Sun's website.

7 Q. Okay. So you consulted Sun's website for the
8 API specifications when doing the work for Google?

9 A. Yes.

10 Q. Who else did?

11:34:09

11 A. I'm not sure.

12 Q. Did the Noser team consult Sun's
13 specification?

14 MR. PURCELL: Object to the form.

15 THE WITNESS: I would -- I don't have any
16 specific knowledge of it, but I would assume so.

11:34:20

17 Q. BY MR. PETERS: Did you observe any copyright
18 notices on the specifications?

19 A. Yes.

20 Q. And what did the copyright notices on Sun's
21 API specifications say?

11:34:35

22 A. I didn't -- I don't recall.

23 Q. Did you consult with an attorney about
24 implementing Sun's Java APIs?

25 MR. PURCELL: You can answer that question

11:34:57

Page 66

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1 "yes" or "no".

2 THE WITNESS: No.

3 Q. BY MR. PETERS: Why not?

4 A. I didn't see a need to. I mean, it wasn't

5 copying the Java docs. 11:35:10

6 Q. Before the first commercial release of
7 Android in a mobile device, do you know if anyone at
8 Google consulted with an attorney regarding the Java API
9 implementations in Android?

10 A. I don't have knowledge of that. 11:35:26

11 Q. Do you know if anyone at Google investigated
12 Sun's patent portfolio before the first commercial
13 release of Android in a mobile device?

14 A. No.

15 Q. Did you have discussions on the Android team 11:35:43
16 about Sun's intellectual property rights?

17 A. No.

18 Q. Earlier today you mentioned that
19 Dan Bornstein had been working on the Java API

20 implementations before you joined up. 11:36:21

21 A. Correct.

22 Q. What resources did Mr. Bornstein do in his
23 work on the Java API implementations?

24 MR. PURCELL: Object to the form.

25 THE WITNESS: Actually, I do want to go back 11:36:33

Page 67

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1 in -- to your previous question. I mean, you mentioned
2 intellectual property. So obviously the trademark is
3 intellectual property. I knew that -- yeah, I did
4 discuss getting that Java stamp of approval.

5 Q. BY MR. PETERS: So those were discussions 11:36:49
6 about not being able to call things Java, because they
7 had not passed the TCKs; is that right?

8 A. Correct. Yeah.

9 Q. What resources did Mr. Bornstein use in his
10 work on implementing the Java API specifications? 11:37:01

11 MR. PURCELL: Object to the form.

12 THE WITNESS: I'm not sure.

13 Q. BY MR. PETERS: Did Mr. Bornstein consult
14 Javadoc, to your knowledge?

15 MR. PURCELL: Object to the form. 11:37:16

16 THE WITNESS: I'm not sure.

17 Q. BY MR. PETERS: You had -- turn back to
18 Apache and Apache Harmony for a minute.

19 A. To what? I'm sorry.

20 Q. To Apache Harmony. Not any specific 11:37:49
21 document.

22 A. Oh, okay.

23 Q. But you had mentioned that Sun was putting on
24 a field of use -- trying to put on field of use
25 restrictions onto Apache that would prevent the use of 11:38:05

Page 68

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1 STATE OF CALIFORNIA) ss:

2 COUNTY OF MARIN)

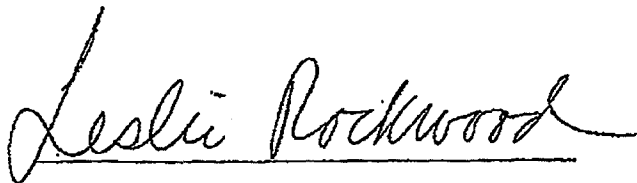
3
4 I, LESLIE ROCKWOOD, CSR No. 3462, do hereby
5 certify:

6 That the foregoing deposition testimony was
7 taken before me at the time and place therein set forth
8 and at which time the witness was administered the oath;

9 That testimony of the witness and all
10 objections made by counsel at the time of the examination
11 were recorded stenographically by me, and were thereafter
12 transcribed under my direction and supervision, and that
13 the foregoing pages contain a full, true and accurate
14 record of all proceedings and testimony to the best of my
15 skill and ability.

16 I further certify that I am neither counsel
17 for any party to said action, nor am I related to any
18 party to said action, nor am I in any way interested in
19 the outcome thereof.

20 IN WITNESS WHEREOF, I have subscribed my name
21 this 4th day of August, 2011.

22
23 
24

25 LESLIE ROCKWOOD, CSR. NO. 3462